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CPY - TOKD-N

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DR - 1776-U

FS - CPI;GMPI

IC - C25D15/02 ; F02F3/10 ; F16J10/00

MC - M11-A02 M11-F

PA - (TOKD-N) TOKYO DIAMOND KOGU SEISAKUSHO

PN - JP4333599 A 19921120 DW199301 C25D15/02 006pp

PR - JP19910199748 19910509

XA - C1993-002516

XIC - C25D-015/02 ; F02F-003/10 ; F16J-010/00

XP - N1993-003771

AB - J04333599 The component coated by ultrafine diamond particles eutectoid film has a eutectoid film (pref. 0.1 micron or thick) comprising metallic matrix where ultrafine round diamond particle clusters of nanometer to angstrom magnitude, pref. 500A or smaller size, are dispersed.

- USE/ADVANTAGE - The film applied to machine components such as pistons and VTR cylinders which require high lubrication and anti-abrasion properties.

- In an example, the prep'd. plating bath contained 22 g/l NiSO₄, 28 g/l lactic acid, 2.2 g/l propionic acid, 20 g/l of sodium hypophosphate, several drops of surfactant, 3 ct/l of ultrafine particles. An Al alloy piston was placed in a basket which was then dipped into the plating bath at 90 deg. C to carry eutectoid plating. The plating film thickness was 2 microns after 10min. and 6 micron after 30 min.. Two test pieces were taken from the same coated product to slide each other under 1N loading, 7.0 m/min. of friction speed. SEM observation confirmed that the friction surface yielded a plastic flow and that the generated abraded particle size was 3 micron or less. (Dwg.0/9)

AW - CARBON@

AKW - CARBON@

IW - HIGH ABRASION RESISTANCE LUBRICATE FILM PISTON COMPRISE METALLIC MATRIX CONTAIN ULTRAFINE DISPERSE ROUND DIAMOND PARTICLE CLUSTER

IKW - HIGH ABRASION RESISTANCE LUBRICATE FILM PISTON COMPRISE METALLIC MATRIX CONTAIN ULTRAFINE DISPERSE ROUND DIAMOND PARTICLE CLUSTER

NC - 001

OPD - 1991-05-09

ORD - 1992-11-20

PAW - (TOKD-N) TOKYO DIAMOND KOGU SEISAKUSHO

TI - Highly abrasion resistant, lubricating film for pistons, etc. - comprises metallic matrix contg. ultrafine dispersed round diamond particles clusters